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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/429,262	10/29/1999	HO-JIN KWEON	03364.P021	5716

7590

07/25/2002

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EXAMINER

DOVE, TRACY MAE

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 07/25/2002

13

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-13

Office Action Summary

Application No.
09/429,262

Applicant(s)
Kweon

Examiner
Tracy Dove

Art Unit
1745



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on May 15, 2002
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

This Office Action is in response to the communication filed on 5/15/02. Applicant's arguments are considered moot in view of the new grounds of rejection.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/15/02 has been entered.

Specification

The disclosure is objected to because of the following informalities: the paragraph on page 4, line 4 recites "the metal is selected from Ai, Mg, Ti or Al". This section is objected to because "Ai" is not a symbol for an element. Note the advisory action of 4/4/02 under #11.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 recites "Si-alkoxide", which is inconsistent with claim 5. The Markush group of claim 5 does not contain Si-alkoxide. Note the advisory action of 4/4/02 under #11.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Miyasaka, US 5,869,208.

Miyasaka teaches a lithium ion secondary battery having a positive electrode, a negative electrode and a nonaqueous electrolyte. The positive electrode comprises an active material of a lithium transition metal oxide which is coated with a non-electron conductive protective layer.

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See abstract. The lithium transition metal oxide may have the formula $\text{Li}_y\text{Mn}_2\text{O}_4$ wherein $0 < y \leq 1.2$. The non-electron conductive protective layer that coats the positive active material comprises particles of a metal oxide selected from the group consisting of aluminum oxide, titanium dioxide and zirconium oxide. See col. 3, lines 16-23 and col. 4, lines 1-4. Table 1 lists preferred compositions of the positive electrode active material.

Miyasaka teaches the positive electrode of the lithium ion secondary battery should be coated with a non-electron conductive (or electro-insulative) protective layer so that the surface of the positive electrode can be kept from lithium metal dendrite which may be produced on the negative electrode. Examples of electro-insulative material include alumina (aluminum oxide), calcium oxide, titanium dioxide and magnesia (magnesium oxide). See col. 6, line 59-col. 7, line 10. The protective layer generally has a thickness of 0.5-50 μm (500-50000 nm). See col. 7, lines 40-44.

Thus the claims are anticipated.

Response to Arguments

Applicant's arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection.

The objection to the specification as containing new matter has been withdrawn.

The 35 U.S.C. 112, first paragraph, rejection of claims 1-8 has been withdrawn.

The 35 U.S.C. 112, second paragraph, rejection of claim 1 has been withdrawn.

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All prior art rejections in view of Goda have been withdrawn.

Allowable Subject Matter

Claims 5-8 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: the claims are directed to a method of coating a lithium manganese oxide (fluoride or sulfide) positive active material with a metal oxide. The method includes coating the positive active material with a metallic alkoxide solution to produce an alkoxide coated powder. The coated powder is then heat-treated such that the alkoxide-coated powder is changed into an oxide-coated powder.

The prior art does not teach a metallic alkoxide coated positive active material powder (of the instant claims) which is heat-treated such that the alkoxide-coated powder is changed into an oxide-coated powder.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracy Dove whose telephone number is (703) 308-8821. The Examiner may normally be reached Monday-Thursday (9:00 AM-7:30 PM). My supervisor is Pat Ryan, who can be reached at (703) 308-2383. The Art Unit receptionist can be reached at (703) 308-0661 and the official fax numbers are 703-872-9310 (after non-final) and 703-872-9311 (after final).

July 19, 2002


CAROL CHANEY
PRIMARY EXAMINER